

CLAIMS

1. A valve assembly (1) for regulating the pressure of a system of the type comprising a valve body (3) provided with a seat (5) which receives a shutter element (2) axially translatable to open or close selectively a fluid passage duct (4) of said system, characterised in that there are provided motor means guided by control means to
5 actuate said shutter element (2).
2. A valve assembly (1) according to claim 1, characterised in that said control means comprise at least one sensor (7) measuring the pressure of the fluid circulating in the system and at least one processor (13) to process the signals received from said at least
10 one sensor (7) and control said motor means.
3. A valve assembly according to claim 1 or 2, characterised in that said motor means comprise an electric motor (8), actuating said shutter element (2), by means of a transmission member (6).
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4. A valve assembly (1) according to claim 3, characterised in that said electric motor (8) is a geared motor or a stepped motor.
5. A valve assembly (1) according to claim 3 or 4, characterised in that said motor means further comprise a drive shaft (14) engaged, in an axially slidable manner, in a seat (15) of said transmission member (6) constrained at the bottom to the shutter
20 element (2).
6. A valve assembly (1) according to claim 5, characterised in that said seat (5) comprises a thread (18) engageable in a corresponding thread made on said shutter
25 element (2) to convert the rotation of said drive shaft (14) into an axial translation of said shutter element (2).
7. A valve assembly (1) according to any one of the preceding claims, characterised in
30 that it further comprises means for completely and abruptly opening and closing said fluid passage duct (4).

8. A valve assembly (1) according to claim 5, characterised in that said means for completely and abruptly opening and closing the fluid passage duct (4) comprise a piston element (10) constrained to said shutter element (2) and slidable in a chamber (11) formed in the valve body (3) under the action of a fluid under pressure and with a possible spring return.

9. A valve assembly according to claim 8, characterised in that it comprises two ports (24, 25) for introduction of fluid, situated respectively above and below said piston element (10) and in fluid connection with means (31, 32) for supply of fluid under pressure and with a possible spring return.

10. A valve assembly (1) according to any one of the preceding claims characterised in that it comprises safety means (12) to interrupt operation of said motor means.

11. A method for pressure regulation in a system, provided with a valve assembly (1) according to any one of the preceding claims, characterised in that it comprises the following stages:

- a) measurement of the pressure downstream of the system;
- b) processing of the measured pressure by a processor (13);
- e) if the pressure detected does not correspond to the set pressure, sending of an actuation command to the motor means;
- c) operation of the shutter element (2) according to the actuation command.